



Patent
Attorney's Docket No. 033018-070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
F. Murphy SPRINKEL, Jr. et al.) Group Art Unit: 3761
Application No.: 10/003,437) Examiner: Darwin P. Erezo
Filed: December 6, 2001) Confirmation No.: 7405
For: RESISTIVE HEATER FORMED)
INSIDE A FLUID PASSAGE OF A)
FLUID VAPORIZING DEVICE)

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated April 7, 2004, reconsideration and allowance of the present application in view of the following remarks is respectfully requested.

Claims 18-21 and 23-37 are pending in this application. Applicants gratefully acknowledge the Office Action's indication that claims 26-31 define patentable subject matter. However, for at least the reasons set forth below, Applicants respectfully submit that all pending claims are in condition for allowance.

Applicants also gratefully acknowledge the courtesies extended by Examiner Erezo on May 3, 2004 in a telephone interview. In the telephone interview, Hajaligol et al. (U.S. Patent No. 5,665,262, hereinafter "Hajaligol") was discussed. The substance of the interview is incorporated in the following discussion wherein it would be made clear that Hajaligol does not disclose or suggest the combination of

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features recited in claim 18 which includes at least the feature of forming a tubular heater.

I. 35 U.S.C. §102(b)

The Office Action rejects claims 18, 21, 25 and 32-37 (as well as claim 23 noted by the Examiner in a telephone call on April 29, 2004) under 35 U.S.C. §102(b) over Hajaligol. The rejection is respectfully traversed.

As discussed in the interview, Hajaligol fails to disclose or suggest the combination of features recited in claim 18, i.e., a method of manufacturing a fluid vaporizing device comprising the steps of: (a) providing a fluid passage in a body, the fluid passage having an inlet opening and an outlet opening; and, (b) forming a tubular heater by depositing a thin resistive film inside said fluid passage such that the film lines all or part of the length of the passage; the heater being operable to volatilize fluid in the passage by passing an electrical current through the film (emphasis added).

Specifically, Hajaligol does not disclose or suggest forming a tubular heater, let alone forming a tubular heater by depositing a thin resistive film inside a fluid passage such that the film lines all or part of a length of the passage. As discussed in the interview, the Hajaligol reference includes heater blades 120 which do not form a tubular heater. For example, as illustrated in Figure 6A of Hajaligol, the heating elements 122 are blade heaters rather than a tubular heater.

The Office Action states that "Hajaligol teaches a method of manufacturing a vaporizing device comprising the steps of providing a fluid passage in a body (see Fig. 10), the fluid passage having an inlet opening and an outlet opening; and forming a tubular heater 122 by depositing a thin resistive film (col. 19, lines 41-46)

inside the fluid passage such that the film lines part of the length of the passage; the heater being operable to volatilize fluid in the passage by passing an electrical current through the film (via electrical leads 104a and 104b; wherein the depositing step comprises coating the interior with a layer of metal powder (col. 13, line 59)."

See the Office Action page 2, paragraph 3.

However, as illustrated in Figure 5, the "tubular heater 122" referenced in the Office Action, as stated above, is a heating element 122 which is merely a portion of the blade 120 which also includes a metal layer 300, a ceramic layer 310, and a material having high electrical conductivity 128. The actual heater is in the form of a heater blade or multiple heater blades, where the heater blades and barrier blades are respectively interposed or interdigitated to form an arrangement of alternating heater and barrier blades. See col. 11, lines 3-4. Thus, the heater itself is not tubular.

Because Hajaligol does not disclose or suggest forming a tubular heater by depositing a thin resistive film inside a fluid passage such that the film lines all or part of the length of the passage, Applicants respectfully submit that claim 18 is allowable. Claims 21, 25 and 33-37 depend from claim 18, and are allowable for at least the same reasons, as well as the combination of features recited in claims 18, 21, 25 and 33-37. Further, claim 32 is also allowable for the reasons discussed above, as well as the reasons that claim 26, from which claim 32 depends, is allowable. Withdrawal of the rejection is respectfully requested.

II. 35 U.S.C. §103(a)

The Office Action rejects claims 19, 20 and 24 under 35 U.S.C. §103(a) over Hajaligol in view of Ketcham et al. (U.S. Patent No. 5,519,191, hereinafter "Ketcham"). The rejection is respectfully traversed.

For the reasons discussed above with respect to claim 18, Applicants respectfully submit that claims 19, 20 and 24 are also allowable over Hajaligol as they depend from claim 18.

Ketcham fails to cure the deficiencies of Hajaligol. Like Hajaligol, Ketcham also fails to disclose or suggest a method of manufacturing a fluid vaporizing device comprising the steps recited in claim 18. Specifically, Ketcham discloses flow-through cellular or honeycomb heaters (see col. 1, lines 9-15) and fails to disclose or suggest forming a tubular heater by depositing a thin resistive film inside a fluid passage such that the film lines all or part of the length of the passage.

For at least the reasons discussed above, Applicants respectfully submit that claims 19, 20 and 24 are allowable. Withdrawal of the rejection is respectfully requested.